

```

C:\Users\Abdul-Aziz Tahir>docker images
REPOSITORY      TAG         IMAGE ID      CREATED        SIZE
ubuntu          16.04      9ff95a467e45  3 weeks ago   135MB

C:\Users\Abdul-Aziz Tahir>docker run -it ubuntu:16.04 /bin/bash
root@6e0ce896ca1a:/# ping google.com
bash: ping: command not found
root@6e0ce896ca1a:/# apt-get update
Get:1 http://security.ubuntu.com/ubuntu xenial-security InRelease [109 kB]
Get:2 http://archive.ubuntu.com/ubuntu xenial InRelease [247 kB]
Get:3 http://security.ubuntu.com/ubuntu xenial-security/main amd64 Packages [2051 kB]
Get:4 http://archive.ubuntu.com/ubuntu xenial-updates InRelease [109 kB]
Get:5 http://archive.ubuntu.com/ubuntu xenial-backports InRelease [107 kB]
Get:6 http://archive.ubuntu.com/ubuntu xenial/main amd64 Packages [1558 kB]
Get:7 http://archive.ubuntu.com/ubuntu xenial/restricted amd64 Packages [14.1 kB]
Get:8 http://archive.ubuntu.com/ubuntu xenial/universe amd64 Packages [9827 kB]
Get:9 http://security.ubuntu.com/ubuntu xenial-security/restricted amd64 Packages [15.9 kB]
Get:10 http://security.ubuntu.com/ubuntu xenial-security/universe amd64 Packages [984 kB]
Get:11 http://security.ubuntu.com/ubuntu xenial-security/multiverse amd64 Packages [8820 B]
Get:12 http://archive.ubuntu.com/ubuntu xenial/multiverse amd64 Packages [176 kB]
Get:13 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 Packages [2559 kB]
Get:14 http://archive.ubuntu.com/ubuntu xenial-updates/restricted amd64 Packages [16.4 kB]
Get:15 http://archive.ubuntu.com/ubuntu xenial-updates/universe amd64 Packages [1544 kB]
Get:16 http://archive.ubuntu.com/ubuntu xenial-updates/multiverse amd64 Packages [26.2 kB]
Get:17 http://archive.ubuntu.com/ubuntu xenial-backports/main amd64 Packages [10.9 kB]
Get:18 http://archive.ubuntu.com/ubuntu xenial-backports/universe amd64 Packages [12.7 kB]
Fetched 19.4 MB in 1min 35s (204 kB/s)
Reading package lists... Done
root@6e0ce896ca1a:/# apt-get install iputils-ping
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libffi6 libgmp10 libgnutls-openssl27 libgnutls30 libhogweed4 libidn11 libnettle6 libp11-kit0 libtasn1-6
Suggested packages:
  gnutls-bin
The following NEW packages will be installed:
  iputils-ping libffi6 libgmp10 libgnutls-openssl27 libgnutls30 libhogweed4 libidn11 libnettle6 libp11-kit0 libtasn1-6
0 upgraded, 10 newly installed, 0 to remove and 5 not upgraded.
Need to get 1307 kB of archives.
After this operation, 3781 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://archive.ubuntu.com/ubuntu xenial/main amd64 libgmp10 amd64 2:6.1.0+dfsg-2 [240 kB]
Get:2 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libnettle6 amd64 3.2-1ubuntu0.16.04.2 [93.7 kB]
Get:3 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libhogweed4 amd64 3.2-1ubuntu0.16.04.2 [136 kB]
Get:4 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libidn11 amd64 1.32-3ubuntu1.2 [46.5 kB]
Get:5 http://archive.ubuntu.com/ubuntu xenial/main amd64 libffi6 amd64 3.2.1-4 [17.8 kB]
Get:6 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libp11-kit0 amd64 0.23.2-5~ubuntu16.04.2 [107 kB]
Get:7 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libtasn1-6 amd64 4.7-3ubuntu0.16.04.3 [43.5 kB]
Get:8 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libgnutls30 amd64 3.4.10-4ubuntu1.8 [548 kB]
```

Get:9 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libgnutls-openssl27 amd64 3.4.10-4ubuntu1.8 [21.9 kB]

Get:10 http://archive.ubuntu.com/ubuntu xenial/main amd64 iputils-ping amd64 3:20121221-5ubuntu2 [52.7 kB]

Fetched 1307 kB in 7s (171 kB/s)

debconf: delaying package configuration, since apt-utils is not installed

Selecting previously unselected package libgmp10:amd64.

(Reading database ... 4785 files and directories currently installed.)

Preparing to unpack .../libgmp10_2%3a6.1.0+dfsg-2_amd64.deb ...

Unpacking libgmp10:amd64 (2:6.1.0+dfsg-2) ...

Selecting previously unselected package libnettle6:amd64.

Preparing to unpack .../libnettle6_3.2-1ubuntu0.16.04.2_amd64.deb ...

Unpacking libnettle6:amd64 (3.2-1ubuntu0.16.04.2) ...

Selecting previously unselected package libhogweed4:amd64.

Preparing to unpack .../libhogweed4_3.2-1ubuntu0.16.04.2_amd64.deb ...

Unpacking libhogweed4:amd64 (3.2-1ubuntu0.16.04.2) ...

Selecting previously unselected package libidn11:amd64.

Preparing to unpack .../libidn11_1.32-3ubuntu1.2_amd64.deb ...

Unpacking libidn11:amd64 (1.32-3ubuntu1.2) ...

Selecting previously unselected package libffi6:amd64.

Preparing to unpack .../libffi6_3.2.1-4_amd64.deb ...

Unpacking libffi6:amd64 (3.2.1-4) ...

Selecting previously unselected package libp11-kit0:amd64.

Preparing to unpack .../libp11-kit0_0.23.2-5~ubuntu16.04.2_amd64.deb ...

Unpacking libp11-kit0:amd64 (0.23.2-5~ubuntu16.04.2) ...

Selecting previously unselected package libtasn1-6:amd64.

Preparing to unpack .../libtasn1-6_4.7-3ubuntu0.16.04.3_amd64.deb ...

Unpacking libtasn1-6:amd64 (4.7-3ubuntu0.16.04.3) ...

Selecting previously unselected package libgnutls30:amd64.

Preparing to unpack .../libgnutls30_3.4.10-4ubuntu1.8_amd64.deb ...

Unpacking libgnutls30:amd64 (3.4.10-4ubuntu1.8) ...

Selecting previously unselected package libgnutls-openssl27:amd64.

Preparing to unpack .../libgnutls-openssl27_3.4.10-4ubuntu1.8_amd64.deb ...

Unpacking libgnutls-openssl27:amd64 (3.4.10-4ubuntu1.8) ...

Selecting previously unselected package iputils-ping.

Preparing to unpack .../iputils-ping_3%3a20121221-5ubuntu2_amd64.deb ...

Unpacking iputils-ping (3:20121221-5ubuntu2) ...

Processing triggers for libc-bin (2.23-0ubuntu11.2) ...

Setting up libgmp10:amd64 (2:6.1.0+dfsg-2) ...

Setting up libnettle6:amd64 (3.2-1ubuntu0.16.04.2) ...

Setting up libhogweed4:amd64 (3.2-1ubuntu0.16.04.2) ...

Setting up libidn11:amd64 (1.32-3ubuntu1.2) ...

Setting up libffi6:amd64 (3.2.1-4) ...

Setting up libp11-kit0:amd64 (0.23.2-5~ubuntu16.04.2) ...

Setting up libtasn1-6:amd64 (4.7-3ubuntu0.16.04.3) ...

Setting up libgnutls30:amd64 (3.4.10-4ubuntu1.8) ...

Setting up libgnutls-openssl27:amd64 (3.4.10-4ubuntu1.8) ...

Setting up iputils-ping (3:20121221-5ubuntu2) ...

Setcap is not installed, falling back to setuid

Processing triggers for libc-bin (2.23-0ubuntu11.2) ...

root@6e0ce896ca1a:/# ping google.com

PING google.com (142.250.199.78) 56(84) bytes of data.

```
^C Command Prompt
--- google.com ping statistics ---
39 packets transmitted, 0 received, 100% packet loss, time 39520ms

root@6e0ce896ca1a:/# exit
exit
```

```
C:\Users\Abdul-Aziz Tahil>docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS          PORTS          NAMES
6e0ce896ca1a   ubuntu:16.04   "/bin/bash"             5 minutes ago   Exited (1) 15 seconds ago          wizardly_greider
```

```
C:\Users\Abdul-Aziz Tahil>docker commit --help
```

```
Usage:  docker commit [OPTIONS] CONTAINER [REPOSITORY[:TAG]]
```

```
Create a new image from a container's changes
```

```
Options:
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-a, --author string      Author (e.g., "John Hannibal Smith
                           <hannibal@a-team.com>")
-c, --change list        Apply Dockerfile instruction to the created image
-m, --message string     Commit message
-p, --pause              Pause container during commit (default true)
```

```
C:\Users\Abdul-Aziz Tahil>docker commit -a 'David Elner' -m 'Added ping utility.' 786 delner/ping
'docker commit' requires at least 1 and at most 2 arguments.
See 'docker commit --help'.
```

```
Usage:  docker commit [OPTIONS] CONTAINER [REPOSITORY[:TAG]]
```

```
Create a new image from a container's changes
```

```
C:\Users\Abdul-Aziz Tahil>docker commit -a 'David Elner' -m 'Added ping utility.'
'docker commit' requires at least 1 and at most 2 arguments.
See 'docker commit --help'.
```

```
Usage:  docker commit [OPTIONS] CONTAINER [REPOSITORY[:TAG]]
```

```
Create a new image from a container's changes
```

```
C:\Users\Abdul-Aziz Tahil>docker commit -a "David Elner" -m "Added ping utility." 786 delner/ping
Error response from daemon: No such container: 786
```

```
C:\Users\Abdul-Aziz Tahil>docker commit -a "David Elner" -m "Added ping utility." 6e0 delner/ping
sha256:8332599b3e9c3965ddc6aef30b3c8e1bf348e105b2b2cfb294b251e21bab6d9b
```

```
C:\Users\Abdul-Aziz Tahil>docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
delner/ping	latest	8332599b3e9c	24 seconds ago	170MB
ubuntu	16.04	9ff95a467e45	3 weeks ago	135MB

Encountered error on docker commit. Looking at docker commit --help, the string must be in " " rather than ' '.

Encountered error on excessive copy-pasting. Corrected the first characters of the container.

```
C:\Users\Abdul-Aziz Tahil>docker run -it --rm delner/ping /bin/bash
root@f8a24e507fbd:/# ping google.com
PING google.com (142.250.199.78) 56(84) bytes of data.
^C
--- google.com ping statistics ---
12 packets transmitted, 0 received, 100% packet loss, time 11423ms

root@f8a24e507fbd:/# exit
exit

C:\Users\Abdul-Aziz Tahil>
```

---END OF EXERCISE 2---